

PATENT SPECIFICATION



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COMPLETE SPECIFICATION.

Improvements in and relating to Exercising Apparatus.

We, JOHN MALCOLM THOMSON and PETER SEMEONOW HARDY, of 550, Van Alst Avenue, Long Island City, County of Queens, State of New York, United States of America, and 67, Perth Street, Bridgeport, County of Fairfield, State of New York, United States of America, respectively, citizens of the United States of America, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to improvements in exercising apparatus.

The primary object of this invention is to provide a portable exercising apparatus by which a user may derive the same exercise indoors that he would outdoors when rowing a boat, to effectively stimulate the vital muscles of the human body, which is understood to be essential to good health and perfect physique.

Another object of the invention is to provide a portable exercising apparatus which includes a pair of spaced foldable rails on which a sliding seat is removably mounted for an operator to sit upon with his feet against a foot rest at one end of the rails, there being hand tension pull straps for an operator to pull and other tension straps attachable to the seat against the action of which the operator pushes, the foot rest being foldable to a flat position when not in use and the seat being removed from the rails to permit the rails to be broken at their hinged joints to fold with the tension straps, in a compact manner for convenient packing into a suitcase and for storing purposes.

With these and other objects in view, the invention resides in certain novel construction and combination and arrangement of parts, the essential features of which are hereinafter fully described, are particularly pointed out in the appended claims, and are illustrated in the accompanying drawings, in which:—

Figure 1 is a perspective view of our improved exercising apparatus showing a person in position thereon for a standing exercise.

Figure 2 is a top plan view of the apparatus set up for a sitting exercise.

Figure 3 is a side elevation showing a person in a seated posture with the seat in a forward position.

Figure 4 is an enlarged vertical longitudinal sectional view through the apparatus with the seat in a rearward position.

Figure 5 is a front end elevational view.

Figure 6 is a side elevation of the track in a folded position.

Figure 7 is an enlarged vertical transverse sectional view on the line 7—7 of Figure 2.

Figure 8 is a top plan view of the rear end of the track showing the spring attaching bracket in a loosened position.

Figure 9 is a detail vertical longitudinal sectional view on the line 9—9 of Figure 8 but showing in dotted lines the position of the spring attaching bracket in a locked tensioned position.

Figure 10 is an enlarged detail vertical longitudinal sectional view through the seat.

Figure 11 is a side elevation of the foot rest in folded position in full lines and in a set-up position in dotted lines.

Figure 12 is a vertical transverse sectional view on the line 12—12 of Figure 11.

Figures 13 and 14 are detail views of two different types of hand grips.

Referring to the drawings by reference characters, the numeral 10 designates our improved exercising apparatus in its entirety which includes in general a foldable track structure A for slidably supporting a seat B and a foot rest C. These parts will be fully described in the order named.

The track section A includes spaced channeled rails 11, each embodying a pair of rail sections 12 and 13 of equal length hingedly connected together at their meeting ends by a hinge joint 14 which breaks upwardly to enable the folding of the sections one upon the other when the seat B is removed from the rails and the foot rest C folded. Brace bars 15 bridge the opposed rail sections adjacent the hinge joint to strengthen the same, the bar bridging the sections 12 also acting as a hand grip by which the track

sections may be lifted to allow the rail sections 12 and 13 to fold upon each other as shown in Figure 6 of the drawings. An end plate 16 is formed integral with the outer end of the sections 13 while the outer ends of the rail sections 12 are cast integral with a platform 17. The underside of the rail sections are provided with spaced feet 18 for supporting the track above the floor; the feet of one rail section being staggered with respect to the feet of the adjacent rail section so that the legs will not strike each other when folded which allows more compact folding of these parts. The legs gradually increase in length from front to rear to support the track section in a forwardly inclined position which necessitates the pushing of the seat upgrade in its backward movement.

As hereinafter stated, the seat B is movable longitudinally over the rails of the track A and is preferably constructed of cast aluminum of a width approximating the width of the track and which has a cavity 19 in the top thereof to comfortably receive a person in a sitting posture and is so shaped to prevent any accidental slipping of the person when performing the exercise. The body of the seat is pivotally mounted to an under carriage 20 as at 21, the said carriage having four wheels 22 journaled therein, the wheels being arranged in pairs for reception in the channels of the spaced parallel tracks. The body of the seat is normally held in a slightly forwardly pitched position by expansion springs 23 interposed between the rear underside of the seat and the rear of the carriage which facilitates a slight rocking movement to be imparted to the seat during the exercising operation and which serves to take up any shock during the backward rocking movement of said seat. The inner side bars of the carriage are disposed in close proximity to the inner side flanges of the seat body and are provided with outwardly extending lugs 24 which ride in arcuate grooves 25 provided in the side flanges of the seat. The lugs and grooves serve to guide the seat in its rocking movement upon the carriage. The seat carries a strap harness 26 for attachment to the waist of a user to prevent possible slipping off the seat during the exercising operation.

The foot rest section C comprises a pair of opposed legs 27 pivoted at the front of the track sections on the platform 17 as at 28, the said legs having feet 29 which rest upon the platform when the foot rest is in a set-up position as shown in Figures 2 to 5 inclusive. Pivottally connected to the legs 27 are links 30 which

are provided with angular cam slots 31, the slots terminating at their rear ends in enlarged recesses 32. Pins 33 pass through the slots 31 and enter ears 34 rising from the platform, while a locking knob 35 is slidable on each pin and pressed inwardly by an expansion spring 36. When the legs 27 are swung up, they carry the links 30 therewith until the pins 33 strike the rear end of the slot whereupon the spring actuated knobs 35 automatically seat themselves in the enlarged recesses 32 whereby the foot rest is locked in a set-up position. To fold the foot rest flat against the platform, the knobs 35 are retracted by pulling outward thereon and the legs manually swung backward. Pivoted at the meeting ends of the legs and links is a transverse bar 37 and on which spaced foot plates 38 are fixedly mounted. Foot straps 39 are provided on the foot plates for holding the feet of a user thereon, while journaled for rotation between the foot plates at the toe ends thereof are rollers 40 for a purpose to be presently described.

Slidably mounted on the underside of the end plate 16 is a tension spring attaching plate 41 having a depending flange 41' extending transversely thereof while an elongated slot 42 is provided therein. The inner end of the slot is provided with an enlarged recess 43 adapted to receive a locking knob 44 when the attaching plate is drawn back to the dotted position in Figure 9 of the drawings. The knob is slidably mounted upon a pin or bolt 45 which passes through the slot 42 and is threaded to the end plate, while an expansion spring 46 acts upon the knob to automatically seat the same when the recess 43 aligns therewith. The flange is notched as at 47 to receive the headed anchor pins 48 carried by the ends of seat tension springs 49 and tension pull springs 50. Certain of the tension pull springs are connected in pairs at their forward ends by coupling members 51 which have eyes 52 for the attachment of pull straps 53. Although I have shown the pull tension springs arranged in pairs, they may be arranged singly or in any desired multiple depending upon the tension desired. In attaching the anchor pins 48 to the attaching plate 40, the knob is pulled up to release the plate and the same pushed forward. The anchor pins are placed in the notches 47 and the plate moved backward until the knob snaps into the recess 42 whereupon it locks the plate against movement with the headed anchor pins concealed beneath the end plate 16. Tension on the springs to effect their removal can be effected by releasing the lock knob 44 from its recess at which time

the tension of the springs will pull the anchor plate forwardly to allow for the removal or attachment of springs thereto.

The free ends of the pull straps 53 pass over the rollers 40 and are shown in the preferred embodiment as connected to double hand grips 54 although single hand grips 55 may be respectively attached thereto as shown in Figure 14 of the drawings. The double hand grip constitutes two separate grip members adjustably connected together by suitable connecting means 56.

The outer tension springs 50 are connected to non-elastic straps 57 by connectors 58, while the straps extend forward and over pulleys or rollers 59 journaled in the platform 17 at opposite sides thereof. The ends of the straps carry snap fasteners 60 which engage eyes 61 on the front of the seat. The seat is detachable from the strap to permit of its removal when not in use but when connected therewith, the springs to which the straps 57 are attached places a tension upon the seat and normally holds the same at the limit of its forward movement. When the seat is removed from the track, the snap fasteners 60 strike the rollers 59 and cannot pass therearound which prevents the straps from entirely pulling past the rollers.

In use for performing a rowing exercise, the apparatus is set up in the manner shown in Figures 2, 3 and 4 of the drawings, whereupon the operator sits upon the seat B with his feet against the foot plates 38 and grasps the double hand grips 54. The seat being normally in a forward position, the first movement of the seat will be in a rearward direction which is accomplished by an operator pushing against the foot plates against the action of the spring tensioned straps 57. Simultaneous with the backward pushing movement, the user pulls upon the hand pull straps 53, thus producing an action similar to that of rowing a boat. Upon reaching the limit of rearward movement, the user releases the foot pressure and the pulling force whereupon the tension straps return the seat in a forward direction. This operation is continued at even speed until the user has completed his exercise.

If desired, a different type of exercise may be taken as shown in Figure 1 of the drawings, whereupon the seat is removed and the foot rest C folded down flat upon the platform 17 as hereinbefore explained and the user takes a standing position upon the foot plates 38. He is then in a straddling position over the pull straps and may bend over and grasp the hand grips 54 for pulling upward against the

tension on the straps.

For shipping and storing purposes, the seat B is removed from the track by first disconnecting the snap fasteners 60 and the foot rest C folded flat against the platform 17. By breaking the rule joint upwardly, the tension of the springs 50 will serve to complete the folding of the rails as an operator need only grasp the transverse brace bar 15. The straps will hang within the folded track without becoming entangled and will readily straighten out when the track is again set up for use. The folded track and seat may be conveniently packed in a suitcase for transporting from place to place and may be readily assembled for use when desired by one unskilled in the art.

While we have described what we deem to be the most desirable embodiment of our invention, it is obvious that many of the details may be varied without in any way departing from the spirit of our invention, and we therefore do not limit ourselves to the exact details of construction herein set forth nor to anything less than the whole of our invention limited only by the appended claims.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. An exercising apparatus comprising a pair of spaced parallel rails, a wheel seat movable over said rails, a foot rest mounted at the front end of said rails, straps passing about pulleys adjacent the front end of said rails and having one of their ends connected to said seat and their other ends extending rearwardly beneath said seat, pull straps passing over pulleys adjacent the front end of said rails and having hand grips secured to one end thereof, the other ends of said straps extending rearwardly, and fixed tension springs to which the rear ends of all the straps are connected.

2. An exercising apparatus including a foldable track structure having a platform at the front end thereof, a wheel seat removably mounted on said track for longitudinal movement thereover, tension straps passing about pulleys journaled in said platform, fastening elements carried by the straps for detachable engagement with eyes on said seat, tension pull straps passing about pulleys journaled in said platform, a foot rest, and means for mounting said foot rest upon said platform for adjustment to a set angular position for the reception of the feet of a user in sitting posture on said seat, or to a flat position against said platform to accommodate a user in a standing posture and to

facilitate the compact folding of the track structure when the apparatus is not in use. 30

3. In a portable exercising apparatus, 35
 5 a foldable track including a pair of rail sections hingedly connected together for movement to a co-extensive position with respect to each other or to a folded position one upon the other, tension springs 40
 10 having one of their ends fixedly connected to the end of one of said rail sections, exercising straps connected to said springs and passing over pulleys journaled in the end of the other rail section, and a bar 45
 15 bridging the parallel sides of one of the rail sections by which the hinged joints between the rail sections may be broken upon manual lifting upon said bar, whereby the tension of said springs will 50
 20 effect further folding of said rail sections to a folded position.

4. In an exercising apparatus, a seat adapted to be propelled back and forth over a track comprising a wheel carriage, 5
 25 a seat body pivoted thereon, springs acting upon said seat body to normally tilt the same in a forward direction, and co-acting guide elements between said carriage and said seat body for guiding said seat body in its rocking movement upon said wheel carriage. 30

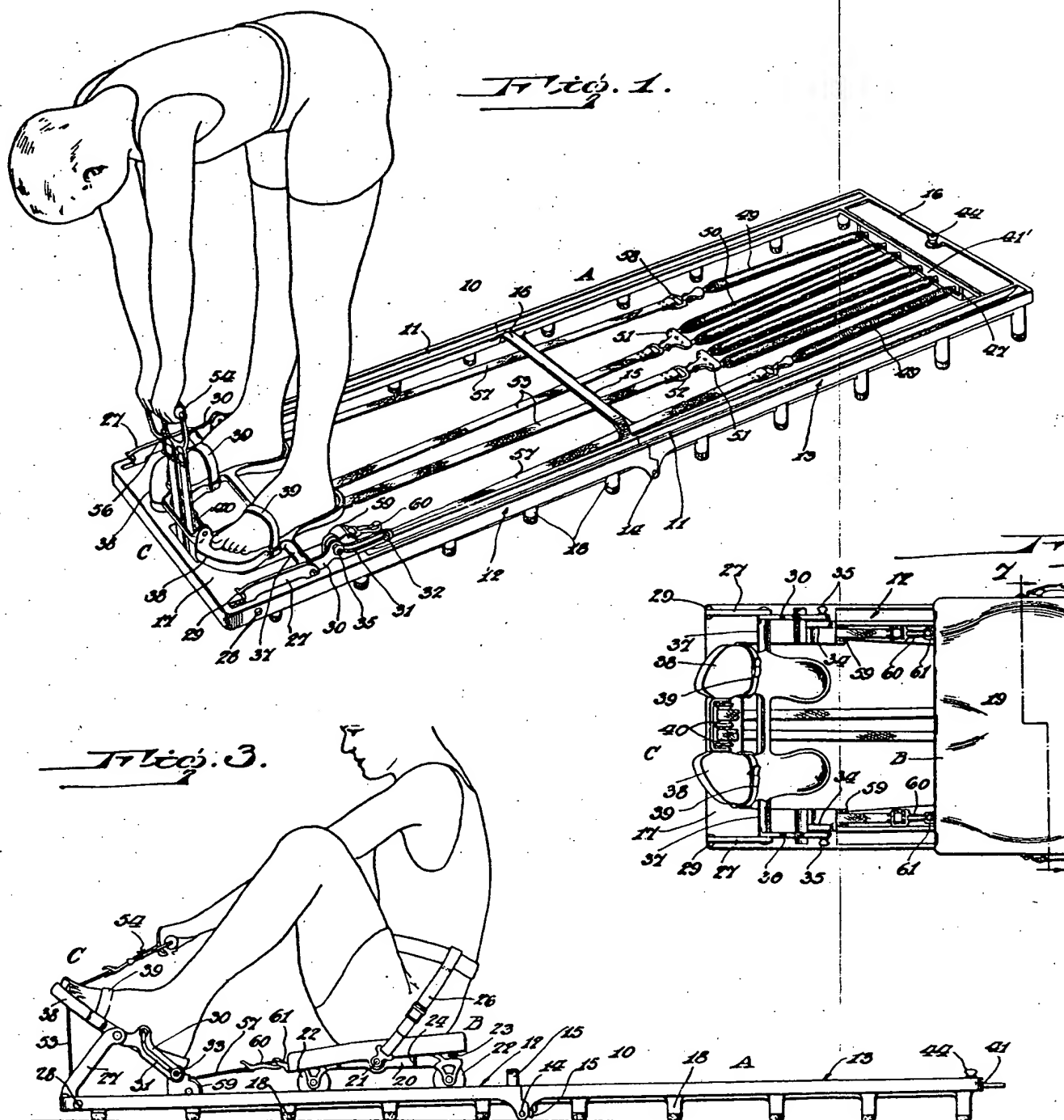
5. In an exercising apparatus including a platform, a pair of spaced opposed legs pivoted to said platform, links pivoted to said legs, integral foot plates 35
 supported by said links, said links having cam slots therein, and locking pins passing through said cam slots for locking said links in an adjusted position, substantially as and for the purpose specified. 40

6. An exercising apparatus comprising a rectangular track having spaced longitudinal side rails, a wheel seat slidable over said rails, an adjustable spring attaching plate at one end of said track, 45
 contractile springs removably fastened to said spring attaching plate, and non-elastic pull straps connected to said springs, certain of which straps are connected to said seat while the others are 50
 employed for pulling upon during exercise when sitting upon said seat.

Dated this 10th day of May, 1929.

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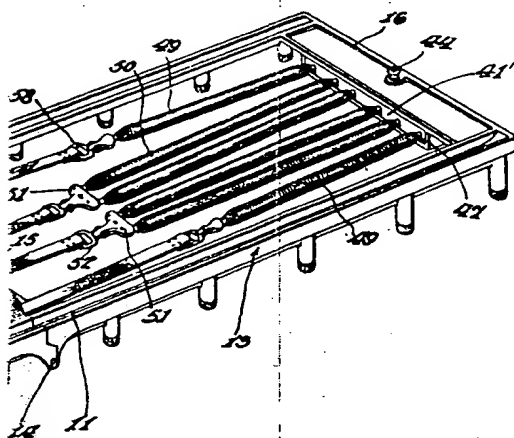


Fig. 5.

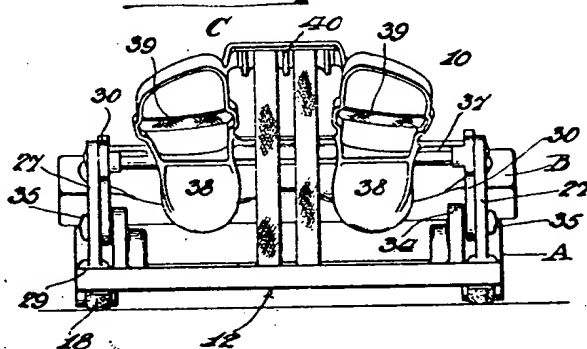


Fig. 2.

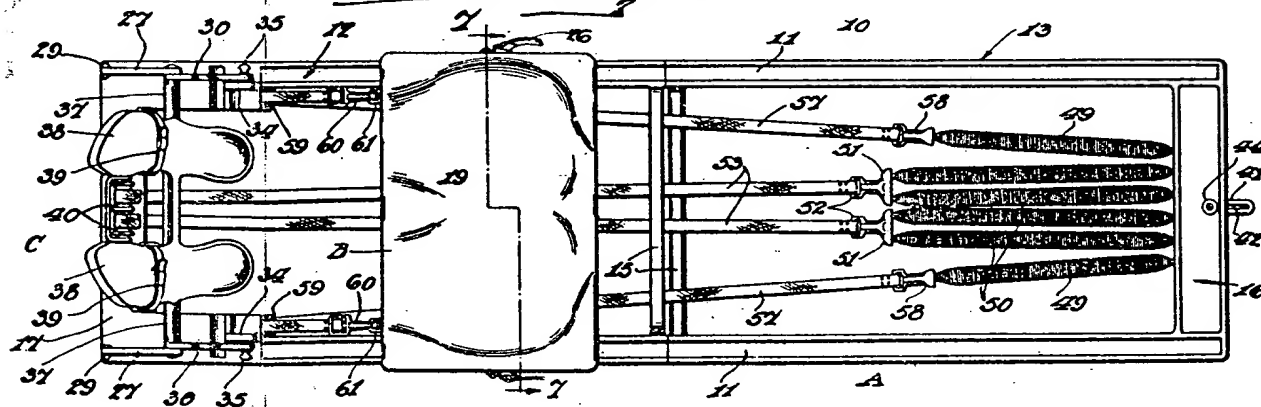
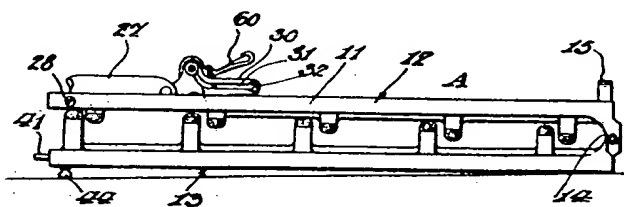
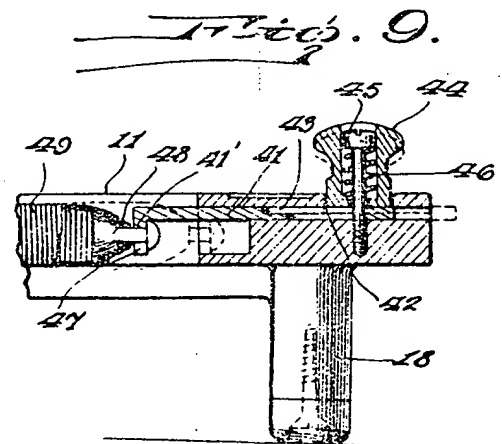
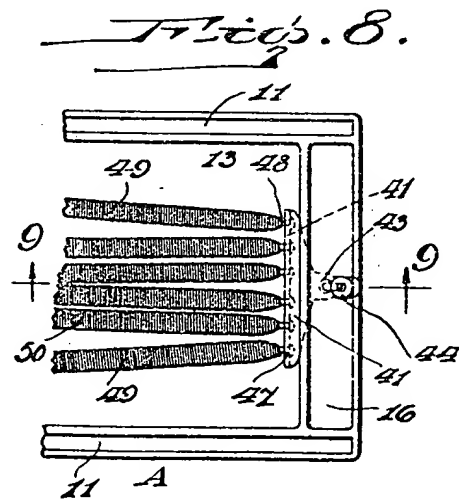
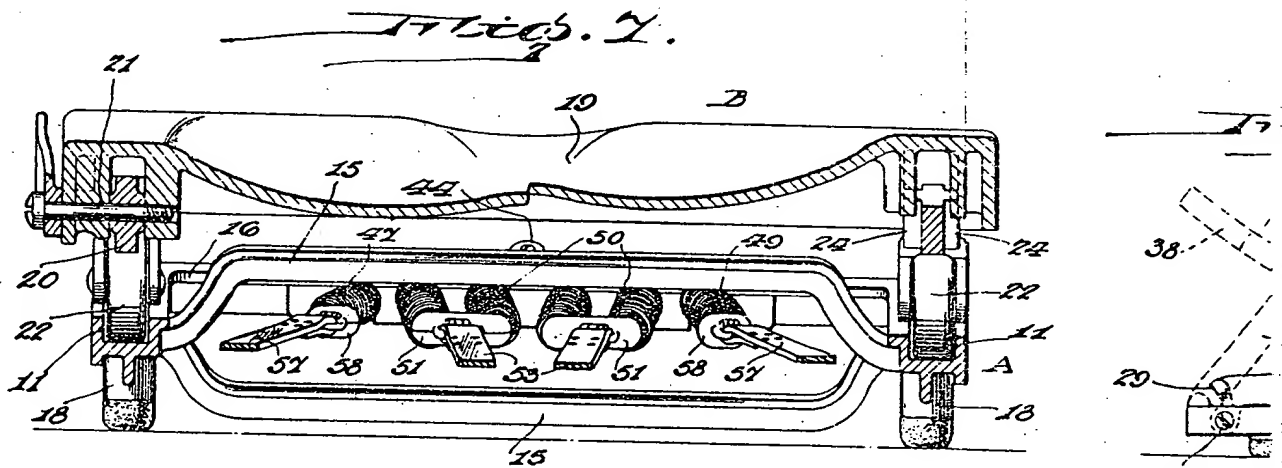
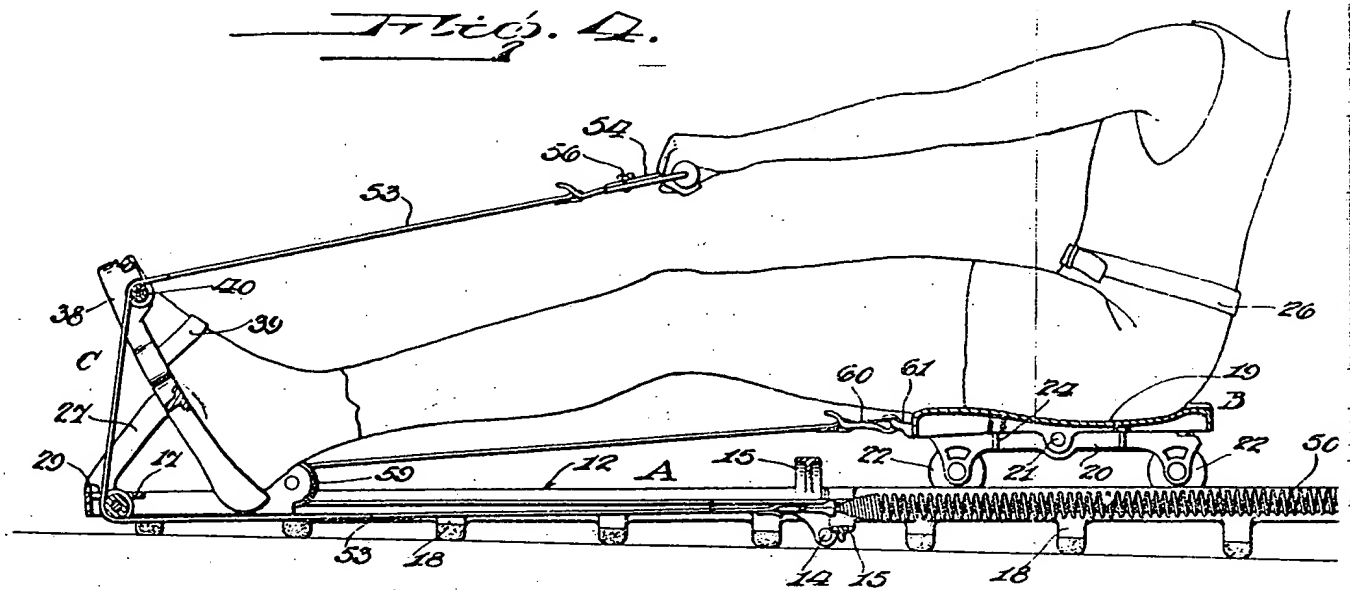
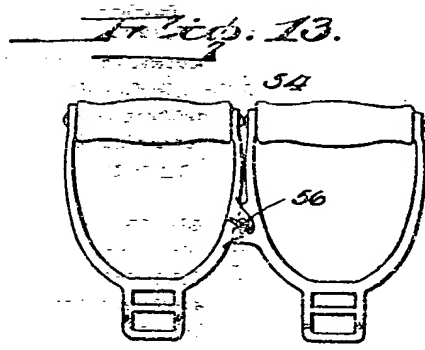
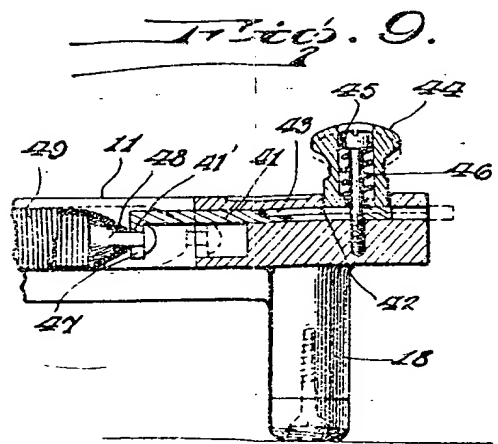
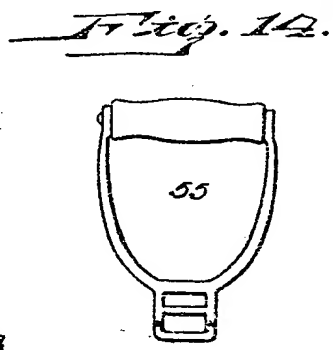
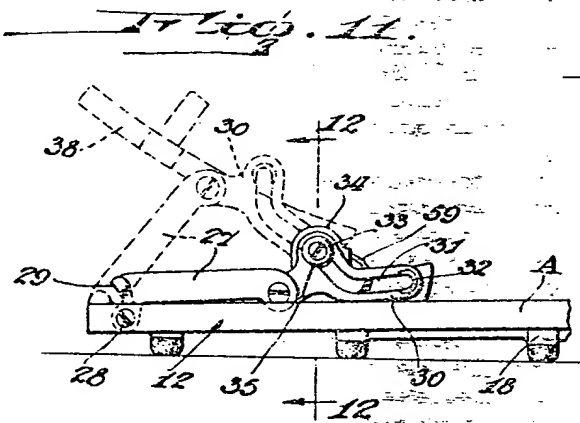
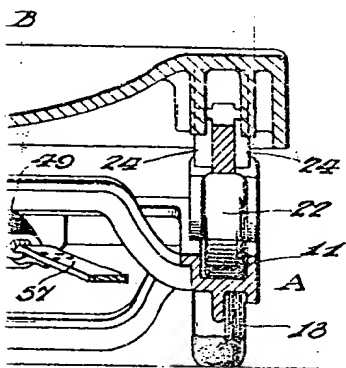
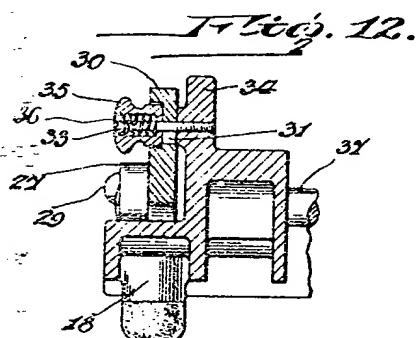
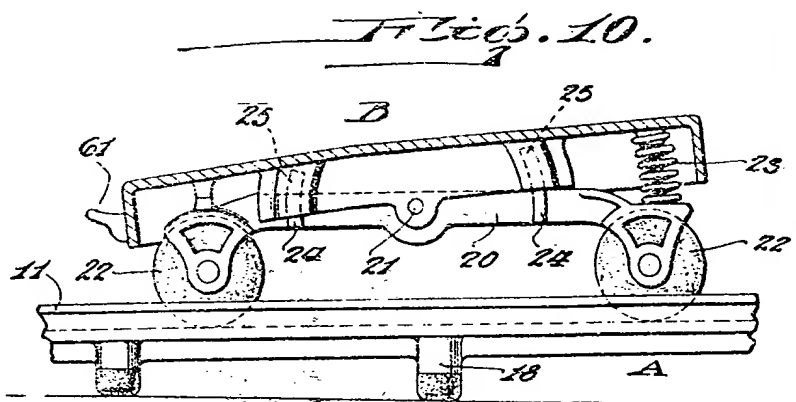
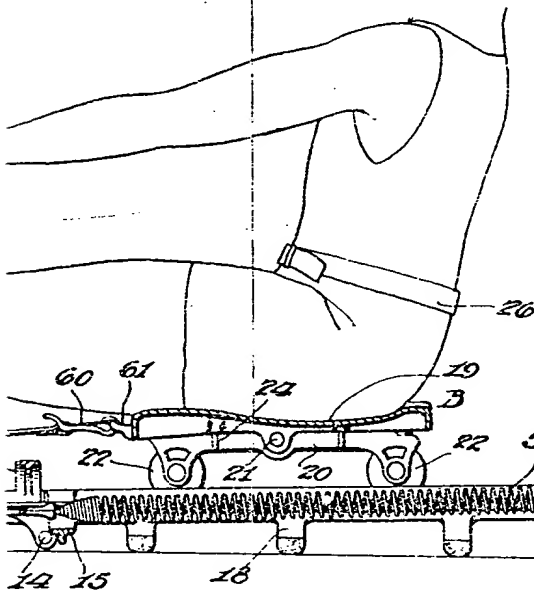


Fig. 6.



[This Drawing is a reproduction of the Original on a reduced scale.]





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